

FOCAL POINT



Issued by the

Milwaukee Astronomical Society

February 1988

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New Members

We're pleased to welcome Tim Clark, Wauwatosa; Ned Guyette, Milwaukee; Sandy McDonald, daughter of Charles McDonald, Waukesha; and Walt Stein, Waukesha.

Meteors

February is another sparse month as it offers only one weak shower late in the month. Always keep an eye open for sporadic meteors that might later be associated with new showers.

Delta Leonids - February 26. Radiant is overhead around 11:00 P.M. No more than 5 meteors per hour at a speed of 24 kps.

E.T. Where Are You?

The little fellow got a lot of attention a few years ago in the blockbuster movie "E.T." This film and many others of the same genre plus a lot of fiction and non-fiction literature has given rise to the question, "Are we alone?" If all life on earth was suddenly extinguished, would the universe be devoid of life? Seems hardly likely. It seems reasonable that at least one of the many suns occupying the universe would support some form of life on one or more of its satellites, if any.

Which brings us to our February speaker. In his talk "E.T. - Where Are You?," Dr. Richard Dittman of the U.W. Milwaukee Physics Department will discuss the probability of extra-terrestrial life in our galaxy. What are the chances that this could occur? Draw your conclusion from the points he makes!

Attend this interesting and different meeting. Guests are welcome.

WHEN: Friday, February 19, 8:00 P.M.

WHERE: Child & Adolescent Treatment Center Auditorium.
9501 W. Watertown Plank Road, Wauwatosa.
The site may be reached by the Rt. 71 bus.
There is ample well-lit free parking nearby.

Observatory News

Parking in the lower parking lot is now possible thanks to Nick Nichols. Don't open the "B" dome slit all the way during cold weather. It may stick.

Volunteer members are invited to observe the following occultation.

M45 Occultation by the Moon on Tuesday night, February 23 - 24 at 1:28 - 5:00 U.T. (7:28 - 11:00 P.M. CST). The Moon will be 45% sunlit for this passage. Most of the observable events are disappearances of the dark limb of the Moon. The graze chart recorder will be used to time as many of these events as possible. This method was a huge success last year.

Calendar of Events

Friday, February 19	- February Program-Meeting.
Tue.-Wed. February 23- 24	- M45 occultation by the Moon.
Wednesday, February 24	- March "Focal Point" Deadline.
Wednesday, March 2	- First Wednesday 7:30 P.M. at the observatory.
Thursday, March 3	- Full Sap Moon.
Saturdays	- Observatory maintenance and improvements. Help wanted. Call 475-9418 or 258-5626.
Saturday Nights	- Member's night at the observatory.

Apollo Fund

Apollo Fund Limited has again presented the Milwaukee Astronomical Society with a \$1,000 donation to be used for improving and equipping our New Berlin facilities. MAS member Orin Purinton, president of Apollo Fund Limited, has made possible our acquisition of, among other things, a tractor, new observatory seating, and the materials for construction of the two 8" Dobsonian loaner "Apollo" telescopes now available for general use away from the observatory. The telescopes were named "Apollo" in appreciation for the generosity of Mr. Purinton and the Fund.

For Sale

1.25" standard Lumicon Deep Sky filter. Enhances nebulae like Orion and Lagoon Nebulae, increases contrast 2-3X. Wide bandpass. Like new. \$40.00.

Contact Lee at 961-8752.

Indian Astronomy

by Paul MacAvaney

The upcoming MAS trip to Chicago presents us all with a unique opportunity to learn about the culture of the Native Americans, and how closely one tribe related to the night sky.

The Field Museum of Natural History was fortunate enough in the early 1900's to have on its staff a man named James Murie, whose mother was a full-blooded Skidi Pawnee. Although raised in the "civilized" American culture, he became highly interested in his Pawnee ancestors, and obtained for the Museum a large number of artifacts, as well as documenting folklore that had been previously ignored.

Of particular interest to MAS members is the Skidi Star Chart. Originally part of a ceremonial "star bundle", this is the only known representation of the night sky by a Native North American tribe. The age, although unverified as of yet, is thought to be in excess of 300 years.

Also of interest is the full-scale Pawnee earth lodge, built to specifications from verbal accounts gathered by Murie. Almost every aspect of the lodge relates in some way to the Pawnee understanding of the cosmos: building materials, shape, orientation, etc. Native American volunteers are on hand at the exhibit to explain its many features.

I hope that everyone participating in the Chicago trip will take the time to visit the Field Museum, at least for the enrichment that learning about some of the original American astronomers will bring.

I'd Like To Know...

Dr. Robert Stencel, Executive Director of the Center for Astrophysics and Space Astronomy, University of Colorado at Boulder, has offered to edit a "Questions for the Astronomer" column. MAS members could pose questions and receive concise answers by Dr. Stencel and many colleague Ph. D. astronomers, who, collectively could field many reasonable questions. Your "Focal Point" editor will forward your queries of general interest to Dr. Stencel and publish them as newsletter space permits.

Dr. Stencel's credentials include ten years of professional astronomy research and five years as a columnist for "Odyssey" magazine. As an active MAS alumnus, he joined the Society as a junior member. We hope we provided some incentives and opportunities for his successful career. This offering is a "contribution" he would like to make to his "alma mater."

Photometer Missing From the MAS Observatory

by Dan Koehler

Sometime late last spring or early last summer the Observatory's Starlight-1 photoelectric photometer disappeared from the darkroom in the "A" building. It was discovered missing in August by the Observatory staff. The incident was reported to the Board of Directors at their September meeting, and a rigorous search of the buildings, rooms, and cabinets at the Observatory was conducted. All keyholders and other parties within the MAS known to have knowledge of the photometer were contacted and questioned as to its whereabouts. Our search turned up no clues, no leads, and no photometer.

For the past several months, we (myself, my fellow officers and directors, and the Observatory staff) have kept quiet about this matter, hoping the photometer would turn up. Our theory was that someone "innocently" took the photometer. We thought that person was using it at their home, learning to use it, or was experimentally connecting it to a personal computer for data collection at the Observatory. We assumed that person did not realize the photometer would be missed, and we assumed they would bring it back within a short period of time.

It now appears that these assumptions were wrong. We are nearly convinced the Society's photometer was intentionally stolen by someone in the Society with a key to the Observatory, or it was taken by a member while the Observatory was open for a member's night last spring or summer, without the keyholder's knowledge.

The instrument is large—two blue "boxes" about 20 lbs. or so each—with various cables and attachments. Whoever took it knew exactly what they wanted, as every related piece of hardware for the photometer is missing also.

The photometer was purchased several years ago at a cost of \$1500. Replacing it now would run at least \$2500 and probably more. Money from our annual Apollo Fund grant of 1985 was used in the purchase, along with general funds from the MAS treasury—in other words your dues!! We cannot claim the loss on our insurance policy as there was no sign of forced entry at the Observatory (thus there was no "burglary" per se), and we did not insure the photometer separately for "mysterious disappearance" (we will if it is ever recovered, or if we purchase a new one in the future).

I am asking the person(s) responsible for the photometer's disappearance to please return it, intact, to the darkroom in the "A" building, if they have a key. If they cannot return it without revealing their identity, I would accept an anonymous telephone call or letter stating where we might be able to recover it ourselves. The MAS will not prosecute the individual(s) responsible for its disappearance, so long as everything is returned in proper working order. You have my word that no investigation will take place, and that no law enforcement officials will be involved. I simply want the MAS photometer returned to its rightful owners—the members of the MAS!! No other questions will be asked, and no further action will be taken.

Dan Koehler

662-2987

W248 S7040 Sugar Maple Dr.

Waukesha, Wisconsin 53186

Observer's Notes by Lee Keith

NGC 2264 H27⁵ H5⁸

Specifications: Galactic Cluster, Emission Nebula in Monoceros.

R.A. = 6h 41.1m Dec. = 9⁰ 53' (epoch 2000)

Size: 60' x 30'; 4th magnitude

General Location: Beginning at Betelgeuse, hop 2.5⁰ NE to 4th mag Mu Orionis, then 3.5⁰ W to 6th mag 75 Orionis, then 5.5⁰ W to S Monocerotis and NGC 2264.

Right Angle Sweep: From Betelgeuse, sweep 2.5⁰ N then 10.5⁰ or 50 min R.A. west.

REFERENCES:

ASTRONOMY Magazine, February 1977:

This object consists of a 4.7 mag primary (an irregular pulsating sun of uncertain period) and an 8th mag companion only 3 arcseconds (") distant. There is also an 11th mag 17" away. Thus Barns called this object a "striking triple...very colorful." ...NGC 2264 has a dual nature. It is a modest cluster of about 20 stars...visible to the unaided eye on a dark night. NGC 2264 is also designated as a diffuse nebula (Cone nebula). Here, then, in one setting of the telescope we have the rare opportunity to see FIVE classes of celestial objects: double (or triple) star, variable star, open cluster, bright (?) diffuse nebula and dark nebula! Surely this unusual gathering deserves a visit on the next clear night.

Webb Society Deep Sky Observer's Handbook Vol III. P.78:

(12" scope) 40 stars in the 25' area around 15 (s) Monoceros.

(8.5" scope) Extended almost parallel to the galactic plane; loose distribution; majority of stars 8-10th mag.

Observe the Herschel Objects (Pub by the Astronomical League):

Mag 4.7, 30' in size, Diffuse Nebula and open cluster in Monoceros, 20 stars counted, loose and poor, stars scattered, one blue-white star, nebula difficult to see, use averted vision. Under better than average sky conditions, may make out faint nebulosity. (8" Starliner, 48x)

Burnham's Celestial Handbook, P.1206:

a very large and scattered cluster of about 20 bright stars and over 100 fainter members, called "the Christmas Tree" by L. S. Copeland. ...resembles an arrowhead pointing nearly due south. ...the distance of the group is about 2600 LY, giving the true distance across the arrowhead as about 20 LY. ...The brightest star of the cluster is the giant 5th mag star S Monocerotis, spectrum 07 IV, a super hot sun which has been found to be slightly variable. This star has a computed absolute mag of -5 ...8500 suns. ...The nebulosity which surrounds NGC 2264 is not seen in small telescopes (not easily), but is dramatically revealed on long exposure photographs.

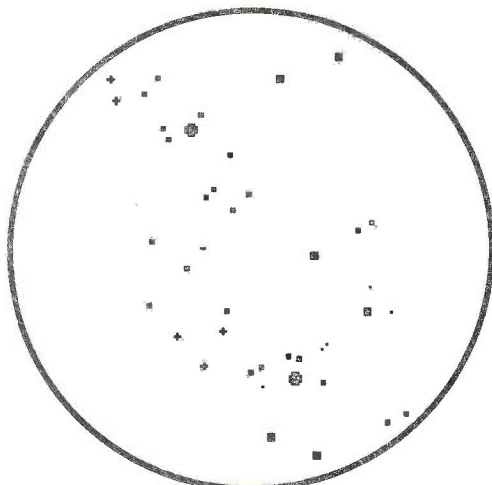
OBJECT DESCRIPTION

NGC/IC No: 2264 Other: H27⁵ H5⁸

Size: 30' Magnitude: 8.5

Object Type: Galactic Cluster

EYEPiece DRAWING



Eyepiece 40mm Magnification 46x

VIEWING CONDITIONS

Date: 1/11/88 Time: 1:30 UT

Seeing: Avg Transparency: 5.0

Observer's Name: Lee Keith

Location: MAS Observatory

Telescope Type: "B" 12.5" f/7

Other Conditions: Hazy, cold

ADDITIONAL SKETCHES & NOTES

Large, Bright, stands out well from background. Looks like a Christmas tree, with bright star at tip and at base. Has many ornaments, no nebulosity seen. 50 stars.

Library News

by Sally Waraczynski

From the sound of things at the January meeting, MAS might have to add another Beatitude: Blessed are they who return in good time that which they have borrowed." The library welcomes home "How to Build a Dobsonian Telescope" and hopes it will be joined soon by "Build Your Own Telescope." Please check to see if what you thought was your own copy does not, in fact, bear the MAS Library stamp.

While sitting out the cloudy or frigid nights you might enjoy one of these new additions:

Microcomputers in Astronomy II - edited by Russell M. Genet and Karen A. Genet

This is a compilation of 23 papers presented at the Fifth Annual Fairborn Symposium (1984). Topics covered in a fair amount of detail include microcomputer applications by amateur in telescope control, photoelectric photometry, and spectroscopy. Plot star charts; interface your Apple for data acquisition, network with other astronomers; achieve digital control of your dewcap (Chapter 22). The possibilities seem endless!

The Exploding Suns: Secrets of the Supernovas - Isaac Asimov, 1985.

It was Fritz Zwicky who coined the term "supernova" back in 1934 when he began to search for gigantic stellar explosions. Once it had been established that there were many other galaxies at great distances from the Milky Way, some previously observed "novas" seemed far too luminous.

Writing before Sanduleak's demise, the author does not discuss hot, blue stars as possible supernova progenitors, but this minor flaw is easily overlooked. The plot thickens with every chapter of this cosmological "who-done-it." How could there suddenly be new stars in an unchangeable sky? Why were all the stars in the Andromeda nebula so dim? What accounts for the abundance of massive atoms on our planet when only hydrogen and helium could have formed in the early universe? Even if you know all the answers, I'll bet there are a couple of questions you hadn't thought of.

We are preparing a comprehensive index for the slide collection. Now would be an excellent time to add some of your 35mm. masterpieces. That could include slides of celestial objects, atmospheric phenomena, or MAS events both historical and more recent. Please be sure your donations are identified as completely as possible as to content, photographer, and date.

Anyone considering enrolling in the Astronomy Book Club, please contact me first. If I can sponsor your membership, the MAS Library can receive several books at no cost.

KeyHolders

February 13	F. Roldan	423-0210
February 20	T. Schmidtkunz	284-0253
February 27	P. Smitka	785-0926
March 5	V. Tangney	327-7976
March 12	W. Tuerck	782-2844
March 19	R. Wiesen	781-4757

Oops!

In the January issue I inadvertently dropped the last several lines of the article about Ed Halbach wishing us a season's greeting. The lines talked about Ed now having more time for observations.

Sorry about the mistake. [Steve Reich]

Directory

President	Dan Kochler	662-2987
Vice President	Dr. R. Wiesen	781-4757
Secretary	Ms. K. Wesener	961-8752
Treasurer	J. Toeller	352-7144
Observatory Director	G. Samolyk	475-9418
Assistant Observatory Director	J. Asztalos	258-5626
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JOIN US FOR THE MILWAUKEE ASTRONOMICAL SOCIETY'S SPRING FIELD TRIP!!

WHAT?

Visit Chicago's Adler Planetarium exhibits and sky show, Field Museum of Natural History, Museum of Science and Industry, or Shedd Aquarium. The trip is open to all members of the Milwaukee, Wehr, Neville Public Museum, and Racine Astronomical Societies, the Northern Cross Science Foundation, their families and friends.

WHEN?

Saturday, March 19, 1988.

COST?

\$9.75 per person for MAS members, their family members and friends, and \$10.25 per person for all others. Includes transportation by Wisconsin Coach Lines Bus and a ticket to the planetarium's sky show "A STAR IS BORN" (Our group will have a special private show).

TIME?

Buses leave Milwaukee from the College Ave. "PARK-RIDE" lot (just off I-94 east 2 miles south of the I-94/894 junction near the airport—NOTE: We will meet in the lot on the west side of I-94!!) at 8:05 A.M. sharp, and return there by 7:30 P.M. our group will arrive in Chicago at the planetarium by 10:00 A.M. The sky show is at 12:00 Noon. The other museum tours take place after 1:15 P.M. until 5:00 P.M. We depart Chicago about 5:15 P.M. Transportation will be provided for all other museum tours if desired. See itinerary on the back side for exact details.

RESERVATION DEADLINE?

Reservation and payment form (enclosed) must be received by March 14, 1988 to insure accommodation. The trip is limited this year to the first 94 reservations received!!

MEALS?

The MAS will not provide any food or beverages on the buses, however food and/or drinks (bottles or cans only, including alcohol) are allowed while in transit. You may eat on your own at the planetarium's snack bar, the field museum's McDonald's, or bring your own "brown bag".

QUESTIONS?

Contact Dan Koehler at 414-662-2987 weekdays after 6:00 P.M. or anytime on weekdays. Mail your completed reservation form with payment (make checks payable to *The Milwaukee Astronomical Society*)

To: *Dan Koehler, President*
The Milwaukee Astronomical Society
W248 S7040 Sugar Maple Drive
Waukesha, WI 53186

**ITINERARY FOR THE
MILWAUKEE ASTRONOMICAL SOCIETY'S
SPRING FIELD TRIP
MARCH 19, 1988**

7:45 - 8:05 A.M.	BOARD BUSES AT COLLEGE AVENUE PARK-RIDE LOT ON WEST SIDE OF 1-94.
8:05 - 10:00 A.M.	TRAVEL TO CHICAGO.
10:00 - 12:00 P.M.	TOUR ADLER PLANETARIUM AND LUNCH.
12:00 - 1:00 P.M.	ADLER SKY SHOW "A STAR IS BORN".
1:15 P.M.	1 BUS LEAVES PLANETARIUM FOR MUSEUM OF SCIENCE AND INDUSTRY, AND ARRIVES ABOUT 1:30 P.M. IT DEPARTS (TO REJOIN THE GROUP AT THE FIELD MUSEUM) AT 4:45 P.M.
1:15 P.M.	OTHER BUS LEAVES PLANETARIUM FOR A STOP AT THE SHEDD AQUARIUM, THEN TRAVELS ON TO THE FIELD MUSEUM..
	YOU MAY STAY AT THE PLANETARIUM FOR AS LONG AS YOU WISH (IT CLOSSES AT 5:00 P.M.) HOWEVER YOU MUST REJOIN THE GROUP FOR THE RETURN TRIP TO MILWAUKEE BY 5:00 P.M. AT THE FIELD MUSEUM
5:00 P.M.	THE PLANETARIUM, FIELD MUSEUM, AND SHEDD AQUARIUM CLOSE.
5:00 - 5:15 P.M.	GROUP REASSEMBLES FOR DEPARTURE.
5:15 - 7:15 P.M.	RETURN TRIP TO MILWAUKEE.

MUSEUM ADMISSION PRICES

Museum of Science and Industry:

General Admission is FREE, special exhibits of the coal mine, submarine, and space program are \$1.50/Adult and \$1.25/Child 6-17.

Field Museum of Natural History:

\$2.00/Adult, \$1.00/Child 6-17, \$1.00/Student, \$.50/Seniors (65+), Teachers are FREE, Maximum Family Charge is \$4.00 for Parents and Children under 18.

Shedd Aquarium:

\$2.00/Adult, \$1.00/Child 6-17, \$.50/Seniors (65+). Main Tank Feedings are at 11:00 a.m., 2:00 and 3:00 p.m.

**MILWAUKEE ASTRONOMICAL SOCIETY
SPRING FIELD TRIP
RESERVATION AND PAYMENT FORM**

NOTE: THE DEADLINE FOR RESERVATIONS WITH PAYMENT IS MARCH 14, 1988.

I WISH TO MAKE RESERVATIONS FOR THE 1988 MAS SPRING FIELD TRIP TO CHICAGO ON MARCH 19, 1988. I UNDERSTAND THAT THE \$9.75 (OR \$10.25 FOR THOSE NOT WITH AN MAS MEMBER) COST INCLUDES TRANSPORTATION AND A PLANETARIUM TICKET ONLY, PER PERSON. ALL OTHER ADMISSION COSTS (FOR THE FIELD MUSEUM, MUSEUM OF SCIENCE AND INDUSTRY, AND SHEDD AQUARIUM) ARE PAYABLE "AT-THE-DOOR" THE DAY OF THE TRIP.

YOUR NAME: _____

YOUR SOCIETY AFFILIATION (CHECK) ☐ MAS ☐ WAS ☐ NPMAS ☐ NCSF ☐ RAS

YOUR HOME TELEPHONE NUMBER _____ - _____

THE NAMES OF YOUR FAMILY MEMBERS AND/OR FRIENDS JOINING US:

The number of persons listed on this form who will attend each of the following optional tours after the Adler Planetarium. CHOOSE FIELD MUSEUM, SHEDD AQUARIUM, (OR THE TWO TOGETHER), OR THE MUSEUM OF SCI/IND ONLY—YOU CANNOT SEE ALL THREE IN ONE DAY!!

☐ FIELD MUSEUM ☐ MUSEUM OF SCI/IND ☐ SHEDD AQUAR.

THE TOTAL NUMBER OF RESERVATIONS YOU ARE MAKING = _____

TOTAL DUE THE MILW. AST. SOC. (NO. ABOVE X \$9.75. OR \$10.25) = \$_____

MAKE CHECKS PAYABLE TO:
The Milwaukee Astronomical Society

MAIL YOUR CHECK WITH THIS FORM TO:
**Daniel L. Koehler, President
The Milwaukee Astronomical Society
W248 S7040 Sugar Maple Drive
Waukesha ,WI 53186**